

9.03 Interest on Receivables

- A/R occurs in the ordinary course of business, so record at **Face value**. (ASC 310)
- L/T receivables are not in the ordinary course of business, so record at **Present Value (PV)**.
- The **future value factor** is equal to 1 divided by the present value factor. For example, an investment of \$10,000 in two years at 10% would accumulate to the principal multiplied by the future value factor. In this case the $\$10,000 \times 1/0.826 = \$12,107$.
 - Notes received solely for cash (assume rate is fair)

N/R	10,000	
Cash		10,000

◦ Notes received for goods or services

1. Note receivable at a **reasonable rate**. The PV of the note is the same as the Face amount. Assume the asset book value is 6,000.

Notes receivable	10,000		
Discount on N/R		0	> cv = 10,000
Equipment		6,000	
Gain on sale		4,000	


Noninterest-bearing notes (Zero-Interest-Bearing Notes)

2. If the interest rate is not stated or is unreasonable, use the **FMV of the goods or the FMV of the note**, whichever is more easily determinable. Assume the FMV of the asset is 9,000.

Notes receivable	10,000		
Discount on N/R		1,000	> cv = 9,000
Equipment		6,000	
Gain on sale		3,000	

3. If the interest rate is not stated, the FMV of the goods or the FMV of the note is not determinable, **IMPUTE** an interest rate. Use a reasonable rate for a note of this type. PV of a note in 2 years at 10% is $.8265 \times 10,000 = 8,265$.

Notes receivable	10,000	
Discount on N/R		1,735
Equipment		6,000
Gain on sale		2,265



- When interest rate isn't fair, the fair rate must be imputed
 - Receivable is carried at the present value of payments discounted at fair interest rate.
 - Periodic interest income accrues based on fair rate.

As a general rule, businesses don't bother charging interest on A/R expected to be collected within 30 days, and the AICPA permits a company to **ignore the interest component** or choose an unusual rate so long as **two conditions** are satisfied:

- The entire receivable will be collected within a year.
- The terms of the sale are customary in the trade.

For long-term receivables and short-term sales **not** consummated under **customary trade terms**, however, the entity is normally required to compute interest income using a fair rate of interest.

If the client is not assessing a fair interest rate on a receivable resulting from a sale, we must impute interest, which means determining the implicit rate of interest being charged. In such a case, it is assumed that some or all of the interest may have been included in the quoted sales price.

It may also be necessary to impute interest on a receivable obtained in connection with a loan, if the repayment includes provisions requiring the borrower to provide goods or services or other consideration in addition to cash payments. It is assumed that some or all of the interest may be represented by the value of the consideration provided.

Imputing interest is not appropriate when a loan involves a straight repayment of the cash with no other conditions, since there is no account to which the interest can be attributed.

Let's look at an example of imputing interest on a sale. Assume that the client sells a product on 1/1/X1 for \$1,000, with payment not due for 3 years and no interest to be assessed. Since the period of collection exceeds one year, we must assume that a portion of the quoted selling price actually represents interest, rather than being part of the true sales price of the product.

There are two reasonable approaches to determining the true sales price:

- **Cash selling price** - The price being charged by the client for sales to customers who pay in full on the date of sale.
- **Present value** - The cash flow of the receivable discounted at a fair interest rate.

Normally, the first approach is preferred, since cash selling price is more verifiable and, therefore, a more reliable measurement. The latter approach requires the determination of a fair rate of interest, and there can be reasonable disagreement as to the appropriate rate to utilize.

Assume, however, that the cash selling price is not determinable, and that a fair interest rate of 10% is determined. The present value of \$1 for 3 years at 10% is .751, so that the present value of \$1,000 payment due in 3 years is \$751. The sale is recorded as follows:

1/1/X1		
Note receivable	1,000	
Discount on note		249
Sales		751

The discount on note, which is simply the difference between the gross receivable and the present value of the receivable, is a form of unearned interest income.

Once a receivable is recorded, it will bear interest using the appropriate rate.

In the previous example, after recording a note receivable of \$1,000 with a discount of \$249 at 1/1/X1, the company will report interest over the 3 years until the note comes due. The interest is based on the carrying value of the note, which is the gross note less the unamortized discount. Since the imputed interest rate is 10%, the original note of \$1,000 - \$249 = \$751 will result in interest income of \$75, recorded as follows:

12/31/X1		
Discount on note	75	
Interest income		75

This will increase the carrying value of the note by \$75 for the subsequent period, so that interest income will also increase. A schedule showing the interest income in each period follows:

	20X1	20X2	20X3
Gross receivable	1,000	1,000	1,000
Unamortized	<u>249</u>	<u>174</u>	<u>91</u>
Carrying value	751	826	909
Interest rate	<u>10%</u>	<u>10%</u>	<u>10%</u>
Interest Income	75	83	91

Interest Amortization

CV	×	Effective Int. Rate	=	Interest Income	(face × stated × time) cash payment =			Amortization of Disc/Prem
8,265	×	10%	=	826	–	0	=	826
<u>+ 826</u>								
9,091	×	10%	=	909	–	0	=	909
<u>+ 909</u>								
10,000								